

# A new genus and four apparently new species of Coccidae (Homoptera) from the Union of South Africa \*)

by

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## OCTOCOCCUS GEN. NOV.

Pseudococcine forms in which the adult female becomes enclosed in a closely felted sac. Anal ring of the adult female with eight setæ of which six are situated normally and two just beyond the anal ring of pores at the posterior extremity of the anal orifice. Anal lobes small but conspicuous. Cerarii confined to the anal and penultimate segments. Posterior abdominal segments with or without transverse rows of stout conical spines. Antennæ of 8 or 9 segments. Tarsal claws without a denticle. Dermal pores of the types normally found in Pseudococcine forms.

Type of the genus — *Octococcus pentziæ* sp. n.

The genus *Octococcus* resembles *Puto* in possessing 9 segmented antennæ and eight setæ on the anal ring, but unlike that genus the cerarii are confined to the anal and penultimate segments, and there is no denticle on the tarsal claw. The species described by Brain under the name of *Puto(?) africanus* (The Coccidæ of South Africa., Trans. Roy. Soc. S. Africa, Vol. V., Part, 2, p. 151, 1915) is also assigned to the genus *Octococcus*. Four paratype slides of this species have been available for study through the kindness of Mr. H. K. Munro of the Department of Agriculture, Pretoria.

### *Octococcus pentziæ* sp. n. (Figure 1).

Adult female enclosed in a closely felted sac which is white or more often dirty white on account of extraneous matter which has become incorporated. The sac is broadly ovoid and convex, almost globular, with a small orifice towards one extremity.

Dead adult females smoky black or very dark purple, shrivelled and very small—rarely exceeding 1 mm. in length. The dermis

\*) The writer is indebted to Mr. H. K. Munro of the Entomological Section of the Division of Plant Industry at Pretoria for the material of the four interesting species dealt with in this short paper. This opportunity is also taken of gratefully acknowledging the assistance rendered by Dr. T. J. Naudé, Chief Entomologist, and Mr. Munro in loaning slides and material from time to time.

appears to be devoid of secretory covering and no lateral or caudal filaments are apparent.

The adult female when mounted for microscopical examination is oval in outline, small and often somewhat shrivelled and rarely exceeds 1.5 mm. in length and 1. Omm. in breadth. The antennæ consist of nine segments the lengths of which are relatively constant; the 1st., 2nd., 7th., 8th., and 9th. are much the same length and longer than the 3rd., 4th., 5th. and 6th. which are also subequal although there is a tendency for the 6th. to be the shortest and the 3rd. the longest of these. In one or two out of some 80 antennæ examined the division between the 4th. and 5th. was incomplete. The number, nature and arrangement of the setæ on the various segments normal.

The mid and hind limbs are characterised by a few unusually stout, almost conical, spines that occur on the coxa, trochanter and femur, otherwise they are normal with the tarsus of the hind limb slightly more than half the length of the tibia and the tibia a little longer than the femur. There is no denticle on the claw.

The anal ring has eight setæ; there is the usual ring of pores in which six setæ are situated but the anal orifice is prolonged somewhat beyond the ring of pores which is broken posteriorly and two further setæ occur one on either side at the termination of this prolongation.

Caudal lobes small but conspicuous, each carrying a stout seta about 174  $\mu$  in length (the anal setæ are about 110  $\mu$  in length) and four or five shorter stout setæ of varying lengths. Cerarii confined to the anal and penultimate segments, the anal pair consist of two stout spines and four or five small trilocular pores whilst those on the penultimate segments have two rather smaller spines and three or four trilocular pores. The cerarian spines are slightly but distinctly constricted at the base.

Dorsal dermis with numerous stout setæ, those on the posterior abdominal segments are the longest and stoutest. Ventral dermis almost devoid of setæ but with a few scattered large disk pores. All setæ are slightly blunted at their extremities and do not terminate in the usual very fine and slender point. Pores on the dorsal dermis not very numerous and consisting of the small trilocular type and two size of pore with definite subcateneous tubes, the smaller of these is slightly larger than the trilocular pores whilst the larger are smaller than the circular disk pores of the ventral dermis.

On *Pentzia* sp. (Compositæ), Grootfontein School of Agriculture, Middelburg, Cape, November, 1935.

It is quite clear that *O. pentziæ* and the species described as *Puto* (?) *africanus* by Brain (*l.c.*) are congeneric. Brain included his species tentatively in the genus *Puto* on the grounds that it had

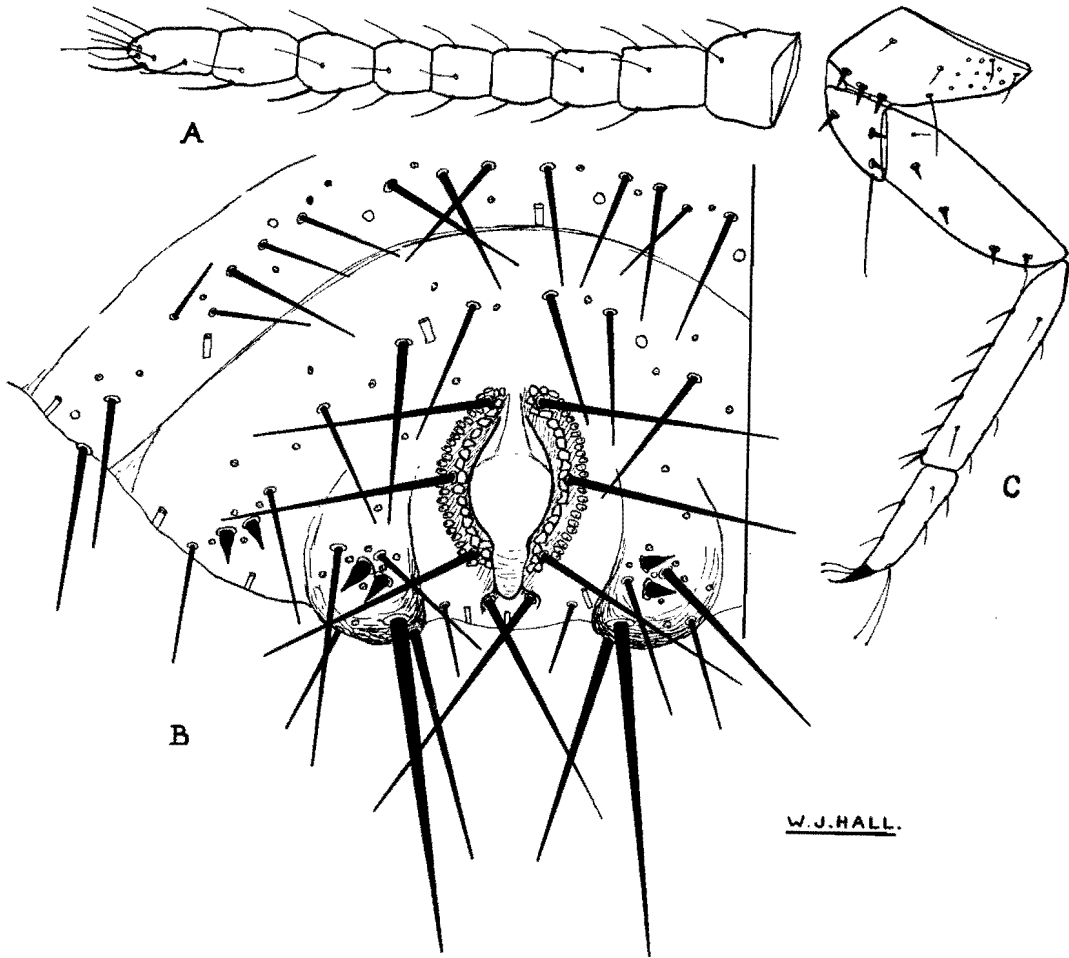


Fig. 1. — *Octococcus pentzia* sp. n.: Adult ♀. A, antenna, x 114; B, dorsal aspect of posterior extremity of abdomen, x 114; C, hind limb, x 170.

9-segmented antennæ and eight hairs on the anal ring. Ferris (The Californian Species of Mealy Bugs, 1918, p. 61) states „It may be noted that Brain has quite misunderstood this genus (*Puto*) and has placed it among the Eriococcine forms solely because of the 8-haired anal ring. The species which he has described as *P. africanus* undoubtedly does not belong to this genus.” It is the view of the writer that not only can *africanus* not be placed in the genus *Puto* but that there is apparently no genus in which it can be satisfactorily

placed. For this reason the new genus *Octococcus* has been erected to include both *pentziæ* and *africanus*.

*Pentziæ* differs from *africanus* chiefly in the absence of the conical spines on the posterior abdominal segments, but in other respects the two species bear a remarkable similarity and both exhibit the same unusual characteristics.

Considerable difficulty was experienced in securing satisfactorily cleared mounts of this species, although several methods were tried. The limbs are extremely fragile and although the setæ are so stout they are apparently delicate, for they are so frequently broken or bent. This is particularly true of the very stout caudal setæ which were only intact in four or five instances, and then bent in one or more places. In all the above respects *africanus* seems to be similar to *pentziæ*.

Other unusual features shared by both *pentziæ* and *africanus* are the conical spines on the coxæ, trochanters and femora of the mid and hind limbs and the slight but distinct constriction at the base of the cerarian spines. Incidentally Brain does not refer to either of the above characteristics in his description of *africanus*.

#### ***Pseudococcus barleriae* sp. n. (Figure 2).**

Adult female small and rarely exceeding 1.5 mm. in length, oval in shape, pale brown in colour and very sparsely coated with white pulverulent matter. No marginal or caudal filaments apparent. Eggs yellow and in some individuals they were observed to emerge joined together like a string of sausages.

Antennæ of the adult female relatively short, consisting normally of seven segments, the relative lengths of which are more or less constant. The only variation of importance occurs in the 4th. segment which often exhibits incomplete division, and in a few individuals complete division, giving an 8-segmented antenna. In the normal 7-segmented form the terminal segment is much the longest with the 2nd. next longest; the 1st. is only slightly shorter than the 2nd.; the 4th. and 6th. are subequal and shorter than the 1st., whilst the 5th. is the shortest with the 3rd. only slightly longer.

Limbs relatively small but normal in every way, with the exception of the hind coxæ, which are very much enlarged, whereas those of the mid and fore limbs are in the usual proportion to the remainder of the limbs. The forelimbs are about  $\frac{4}{5}$  the length of the hindlimbs but their coxæ are only about  $\frac{1}{2}$  the size of those found in the latter pair. Tarsal digitules not knobbed. Anterior and posterior osteoles present but very inconspicuous.

Caudal setæ about 130  $\mu$  in length; anal setæ relatively short being only slightly more than half the length of the caudal pair. Anal ring of normal form. Ceriferous tracts confined to a single

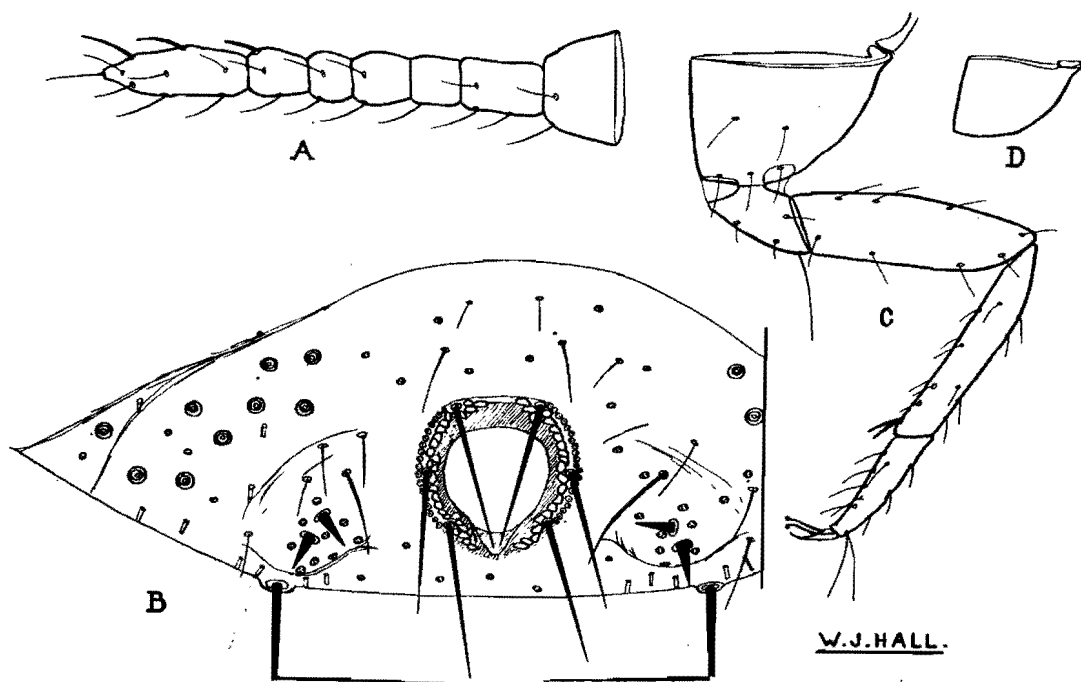


Fig. 2. — *Pseudococcus barleriæ* sp. n.: Adult ♀. A, antenna, x 114; B, dorsal aspect of posterior extremity of abdomen, x 114; C, hind limb, x 170; D, coxa of fore limb, x 170.

pair on the anal segment; these tracts consist of two medium sized spines surrounded by a loose group of minute trilocular pores some 8 or 9 in number. A few setæ of varying lengths are also associated with each tract.

Dermis with the usual trilocular pores and large circular discoid pores; the former are more numerous on the dorsal and the latter on the ventral dermis but in neither case can they be said to be very numerous. In addition there are scattered pores, similar in size to the trilocular form, with small but conspicuous subcutaneous tubes. A few setæ occur on both the ventral and dorsal dermis.

On *Barleria macrostegia* (Acanthaceæ), Pretoria, 14.1.36, in the curled leaves at the end of the twigs, coll. H. K. Munro, Dept. of Agric. Pretoria, No. 4221.

This small species is certainly distinct from any of those recorded or described by Brain from South Africa, and its characters do not appear to agree with those of any species known to the writer. In some respects *barleriæ* resembles *Pseudococcus socialis* Brain, but

it differs from this species in the nature of the hind coxæ and the fact that no ovisac is formed. The nature of the hind coxæ, antennæ and ceriferous tracts should be sufficient to distinguish it from other closely allied species. It has been assigned to the genus *Pseudococcus* rather than *Ripersia* because of its tendency towards 8-segmented antennæ, but in other respects it suggests the latter genus.

**Saissetia monotes** var. **pretoriae** var. n.

This variety differs from typical *Saissetia monotes* Hall (Stylops, Vol. IV, p. 78, 1935) in the following respects: —

1. The thickenings of the dermis in the young adult female are not so conspicuous and do not show the same regular arrangement that is found in typical *monotes*.

2. The unguinal digitules are of similar form, both being stout and conspicuously knobbed at the distal extremity.

3. The lateral spines in the stigmatic cleft are relatively shorter, being about  $\frac{1}{4}$  to  $\frac{1}{5}$  the length of the median spine, and usually only about  $\frac{1}{2}$  to  $\frac{2}{3}$  that of the marginal setæ.

On *Ficus* sp. (Moraceæ), Pretoria, October, 1938, coll. de Ville.

This material is obviously very close to *monotes* from which it differs chiefly in the nature of the stigmatic spines and the fact that the two unguinal digitules to the claw of the limbs are not of different forms as in the case of *monotes*. Both *monotes* and its variety *pretoriae* exhibit an unusually thick and leathery dermis which renders it difficult to get satisfactory preparations for microscopic examination in fact young adult females gave the only preparations of any value.

**Selenaspidus portulacariæ** sp. n. (Figure 3).

Puparium of the adult female circular, low convex, semitransparent, and pale smoky brown in colour. Larval exuviae golden, nymphal exuviae pale brown to golden. In some specimens the larval exuviae pale brown to golden. In some specimens the larval exuviae exhibit a dark median longitudinal stripe. Diameter of puparium of the adult female, 1.5 mm.

Adult female very nearly as broad as long, with a deep and conspicuous articulation between the cephalothorax and the abdomen. Posterior lateral margin of the cephalothorax broadly rounded with a small tubercle of varying form, which is usually rounded and broader than it is long but may be pointed or even beak shaped. Antennæ represented by a minute tubercle carrying a fine curved seta. Parastigmatic glands wanting. Integument highly chitinated in old individuals. Abdominal segmentation distinct; margin of abdominal segments with a few minute tubular spinnerets.

Pygidium broader than it is long, with three pairs of lobes;

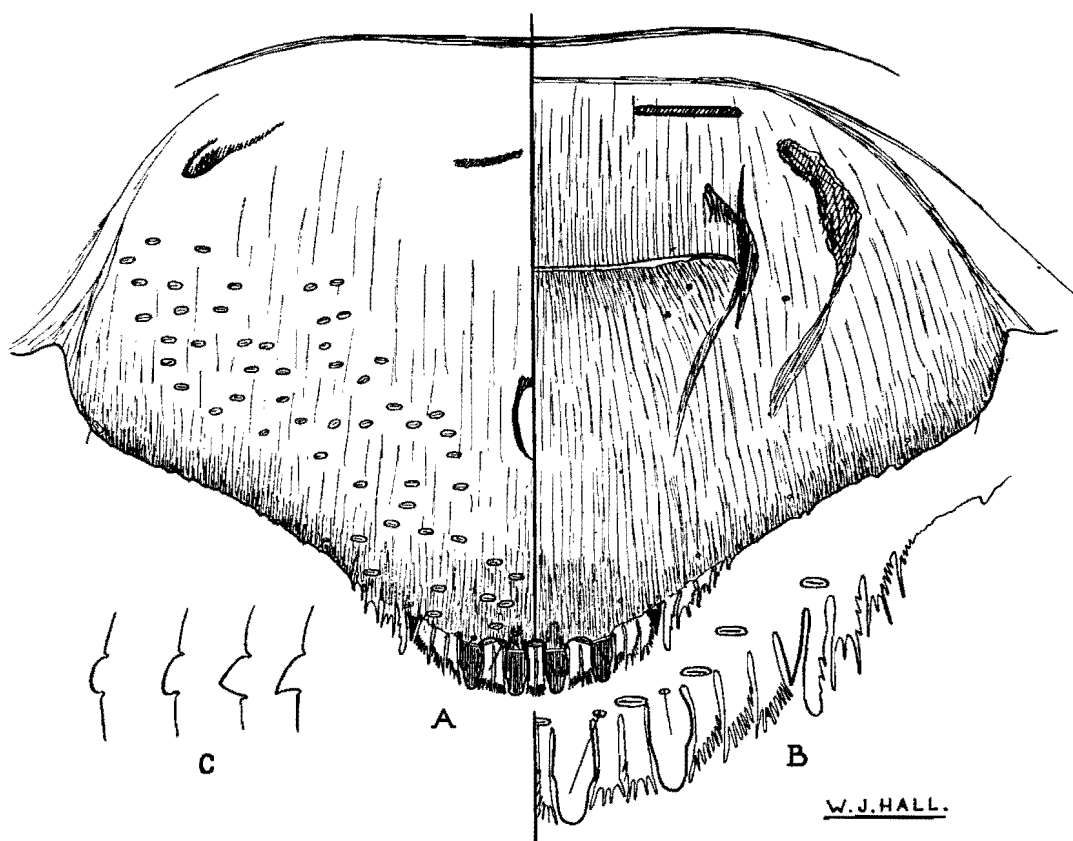


Fig. 3. — *Selenaspidus portulacariæ* sp. n.: Adult ♀. A, pygidium, x 228; B, portion of pygidial fringe, x 456; C, various forms of the cephalothoracic tubercle.

median pair twice as long as broad, rounded at the apex and very slightly swollen in the basal half, with the terminal portion somewhat narrowed; first lateral lobes of the same form as the median pair but very slightly smaller and rather more swollen in the basal half; second lateral lobes represented by tusk-like processes. The squamæ are delicately fringed at their distal extremities, one pair occurs between the median lobes, another pair between the median and first lateral lobes, three between the 1st. and 2nd. lateral lobes and four beyond the 2nd. lateral lobes. The nature of the squamæ beyond the 2nd. lateral lobes is somewhat different from the others (Fig. 3b.). Circumgenital glands wanting. Anal orifice situated rather closer to the apex than the base of the pygidium. Vaginal

orifice broad and conspicuous. Dorsal pores with long tubular spinnerets, moderately numerous but without any apparent definite arrangement.

On *Portulacaria afra* (Portulacaceæ), Fort Beaufort, Cape Province, coll. E. E. Anderssen, April 1938.

This species apparently comes close to *S. articulatus* Morgan, from which it differs principally in the absence of circumgenital glands, and the much longer and narrower from of the pygidial lobes.